Amendments to the Claims

1. (Currently Amended) [[A]] At least one computer-readable medium having computer-executable instructions for performing steps for handling an address change of a mobile host communicating with a correspondent host over an existing connection, the steps comprising:

deprecating, by the mobile host, an old address of the mobile host;

sending, by the mobile host, an address change message to the correspondent host over a secured control channel, the secured control channel implemented with a cryptography-based security protocol, the cryptography-based security protocol comprising the address change message;

returning, by the correspondent host upon receiving the address change message, an acknowledgment to the mobile host over the secured control channel;

modifying, by the correspondent host, security filters and transport control parameters maintained by the correspondent host for the connection with the mobile host to use the new address of the mobile host;

modifying, by the mobile host upon receiving the acknowledgment from the correspondent host, security filters and transport control parameters maintained by the mobile host for the connection to use the new address of the mobile host.

2. (Currently Amended) [[A]] The at least one computer-readable medium as in claim 1, wherein the step of deprecating includes removing routing entries using the old address from a routing table of the mobile host and adding a tunneling entry based on the old and new addresses in the routing table, and wherein the step of sending transmits the address change message through the tunnel, and the step of returning transmits the acknowledgment through the tunnel.

3. (Canceled)

4. (Currently Amended) [[A]] The at least one computer-readable medium as in claim 1, wherein the cryptography-based security protocol is an internet protocol security (IPSEC) protocol.

5. (Currently Amended) [[A]] The at least one computer-readable medium as in claim 1, wherein the steps of sending the address change message and modifying by the mobile host are performed by a mobility service of the mobile host, and the steps of returning the acknowledgment and modifying by the correspondent host are performed by a mobility service of the correspondent host.

6. (Currently Amended) [[A]] The at least one computer-readable medium as in claim 5, wherein the mobility services of the mobile host and the correspondent host are OAKLEY cryptographic key exchange protocol services.

7. (Currently Amended) [[A]] The at least one computer-readable medium as in claim 2, wherein the step of modifying by the mobile host includes removing the tunneling entry from the routing table.

8. (Currently Amended) [[A]] The at least one computer-readable medium as in claim 1, wherein the connection between the mobile host and the correspondent host is established under the Transmission Control Protocol (TCP).

9. (Currently Amended) [[A]] The at least one computer-readable medium as in claim 1, wherein the connection between the mobile host and the correspondent host is established under the User Datagram Protocol (UDP).

10. (Currently Amended) [[A]] The at least one computer-readable medium as in claim 1, wherein the step of modifying by the correspondent host includes maintaining security filters and transport control parameters using the old address of the mobile host active during a pre-selected period of time.

11. (Currently Amended) [[A]] The at least one computer-readable medium as in claim 1, wherein the computer-executable instructions are part of a computer operating system.

12. (Previously Presented) A computer-readable medium having computer-executable instructions for performing steps by a mobile host communicating with a correspondent host over an existing connection to handle an address change of the mobile host from an old address to a new address, the steps comprising:

deprecating the old address;

sending an address change message to the correspondent host over a secured control channel, the secured control channel implemented with a cryptography-based security protocol, the cryptography-based security protocol comprising the address change message;

receiving an acknowledgment of receipt of the address change message from the correspondent host over the secured control channel; and

modifying security filters and transport control parameters maintained by the mobile host for the connection to use the new address of the mobile host.

13. (Original) A computer-readable medium as in claim 12, wherein the step of deprecating includes removing routing entries using the old address from a routing table of the mobile host and adding a tunneling entry based on the old and new addresses in the routing table, and wherein the step of sending transmits the address change message through the tunnel, and the step of receiving receives the acknowledgment through the tunnel.

14. (Canceled)

15. (Previously Presented) A computer-readable medium as in claim 12, wherein the cryptography-based security protocol is an internet protocol security (IPSEC) protocol.

16. (Original) A computer-readable medium as in claim 13, wherein the steps of sending the address change message and modifying the transport control parameters and the security filters are performed by a mobility service of the mobile host.

17. (Currently Amended) A computer-readable medium as in claim 16, wherein the mobility service of the mobile host is an OAKLEY cryptographic key exchange protocol service.

18. (Original) A computer-readable medium as in claim 13, wherein the step of modifying includes removing the tunneling entry from the routing table.

19. (Original) A computer-readable medium as in claim 12, wherein the connection with the correspondent host is established under the Transmission Control Protocol (TCP).

20. (Original) A computer-readable medium as in claim 12, wherein the connection with the correspondent host is established under the User Datagram Protocol (UDP).

21. (Original) A computer-readable medium as in claim 12, wherein the computer-executable instructions are part of a computer operating system.

22. (Previously Presented) A computer-readable medium having computer-executable instructions for performing steps by a correspondent host communicating with a mobile host over an existing connection to handle an address change of the mobile host from an old address to a new address, the steps comprising:

receiving an address change message from the mobile host over a secured control channel, the secured control channel implemented with a cryptography-based security protocol, the cryptography-based security protocol comprising the address change message;

returning an acknowledgment of receipt of the address change message to the mobile host over the secured control channel;

modifying security filters and transport control parameters maintained by the correspondent host for the connection with the mobile host to use the new address of the mobile host.

23. (Original) A computer-readable medium as in claim 22, wherein the step of receiving receives the address change message through a tunnel based on the old and new addresses of the mobile host, and the step of returning includes removing routing entries using the old address from a routing table of the correspondent host and adding a tunneling entry based on the old and new addresses in the routing table for delivering the acknowledgement through the tunnel.

24. (Canceled)

25. (Previously Presented) A computer-readable medium as in claim 22, wherein the security protocol is an internet protocol security (IPSEC) protocol.

26. (Original) A computer-readable medium as in claim 23, wherein the steps of returning and modifying are performed by a mobility service of the correspondent host.

27. (Currently Amended) A computer-readable medium as in claim 25, wherein the mobility service of the correspondent host is an OAKLEY cryptographic key exchange protocol service.

28. (Original) A computer-readable medium as in claim 23, wherein the step of modifying includes removing the tunneling entry from the routing table.

29. (Original) A computer-readable medium as in claim 22, wherein the connection is established under the Transmission Control Protocol (TCP).

30. (Original) A computer-readable medium as in claim 22, wherein the connection is established under the User Datagram Protocol (UDP).

31. (Original) A computer-readable medium as in claim 22, wherein the step of modifying by the correspondent host includes maintaining security filters and transport control parameters using the old address of the mobile host active during a pre-selected period of time.

32. (Original) A computer-readable medium as in claim 22, wherein the computer-executable instructions are part of a computer operating system.

33. (Previously Presented) A method for handling an address change of a mobile host communicating with a correspondent host over an existing connection, comprising the steps of:

deprecating, by the mobile host, an old address of the mobile host;

sending, by the mobile host, an address change message to the correspondent host over a secured control channel, the secured control channel implemented with a cryptography-based security protocol, the cryptography-based security protocol comprising the address change message;

returning, by the correspondent host upon receiving the address change message, an acknowledgment to the mobile host over the secured control channel ;

modifying, by the correspondent host, security filters and transport control parameters maintained by the correspondent host for the connection with the mobile host to use the new address of the mobile host;

modifying, by the mobile host upon receiving the acknowledgment from the correspondent host, security filters and transport control parameters maintained by the mobile host for the connection to use the new address of the mobile host.

34. (Original) A method as in claim 33, wherein the step of deprecating includes removing routing entries using the old address from a routing table of the mobile

host and adding a tunneling entry based on the old and new addresses in the routing table, and wherein the step of sending transmits the address change message through the tunnel, and the step of returning transmits the acknowledgment through the tunnel.

35. (Canceled)